REMARKS

These remarks are in response to the Office Action mailed August 14, 2001.

Specification

3a. The title has been amended to comport with the claims.

3b. Applicant's attorney had not provided a reference list due to computer problems. An alphabetical reference list is provided herewith. Examiner is respectfully requested to append this list to the application. No new matter is being added.

3c. This was amended by addition of the reference list.

3d. On page 3, lines 14 and 24 refer to tumor necrosis factor-alpha (TNFα).

On page 25, line 9; page 27, line 19, the ? should read μ.

On page 31, line 24, the glasses should be β. The symbols were improperly represented because the application was printed using another computer that did not have the same symbol codes. Applicant's attorney wishes to apologize.

3f. This table is part of a definition of amino acid, and does not relate to the description. It may be removed if desired.

4. Sequence listing in computer readable form and hard copy are enclosed herewith.

Claim Rejections - 35 USC §112, second paragraph

5a. These claims have been amended.

5b. These claims have been amended to include members of a group of TNF superfamily of proteins.

5c. ..."[S]aid ligand strand" in line 19 has been amended to "said first ligand strand."

5d. Claim 7 has been amended been amended to indicate that the hybrid strands are bound to each other in parallel fashion in the stalk region.

5e. Examiner has rejected claim 7 as being vague and indefinite in the recitation of the term "carbohydrate recognition domains (CRD)" for the reason that it is "unclear what sequences are encompassed in the carbohydrate recognition domains."

The CRD sequence has been removed from each SPD molecule by substitution with a TNFSF sequence, and so no longer exists in the invention. The construct consists of an SPD sequence-CRD fused in tandem with a TNFSF sequence. Therefore, a listing for CRD has not been provided.

Applicant respectfully requests that this rejection be withdrawn.

5f. The amendment of claim 7 now states that the first trimer strand, TNFSF, is joined in tandem with the second trimer strand, (SPD minus CRD). Applicant made the change suggested by Examiner, but also made additional changes in order to help clarify the claim elements.

5g. Claim 8 has been amended to define "functional equivalents" as "immuno-stimulatory functional equivalents".

5h. It is intended by the claim language to include <u>any</u> modifications to the fused protein, including any modifications to TNFSF, because a modification might make a TNFSF moiety fall out of the recognized nomenclature, while retaining functions of, both, TNF and this fused protein.

Applicant respectfully requests that this rejection be withdrawn.

Claim Rejections - 35 USC s 112, first paragraph

6a,b. Examiner rejected claim 8 as not being commensurate in scope with the written description. In other words, the written description does not provide support for the claim as written. Applicant respectfully disagrees.

On page 36 of the application, Applicant clearly states his reasons for wording claim 8 as he has. In the paragraph immediately below Table II, lines 2 - 7, Applicant

relates the properties of all known collectins in the superfamily, the "tight" similarities between the known CRD structures and extracellular domains of TNFSF members, and the likelihood that any collectin CRD could be replaced with the extracellular domain of any TNFSF member in a structurally compatible manner. This conclusion is based on a sound intellectual premise and deduction. Certainly Applicant has described what he "has conceived". The other TNFSF member sequences are defined in the literature and are available to anyone skilled in the art. The properties required for the functional analogy are stated on page 36. Certainly, given the fact that all TNFSF members have the required properties, and the availability of the sequences in the literature and repositories, one skilled in the art could combine the materials and methods to come up with the claimed invention without undue experimentation.

Applicant based his conclusion on the following premises. It is presumed that TNFSF members stimulate the immune response, and that the collectins, all having very similar structures and properties will fuse with TNFSF members because of the latters' similar structures for the purpose of substituting for CRD moieties. It is a known fact that all known TNFSF members stimulate the immune response. It is also known that all TNFSF and CRD have compatible binding capacities with collectin moieties. Therefore, it follows that all TNFSF members would, with substantial certainty, fuse with collectin moieties to produce a fusion protein having the capacity to stimulate the immune response.

Applicant respectfully requests that this rejection be withdrawn.

7. Applicant appreciates Examiner's assessment of the prior art, and that the claims do not read on the prior art.

CONCLUSION

In summary, for the reasons set forth herein, Applicant maintains that claims 7 and 8, as now amended, clearly and patentably define the invention. Therefore,

Applicant respectfully requests that the Examiner reconsider the various grounds set forth in the Office Action, and allow all claims which are now pending.

If the Examiner would like to discuss any of the issues raised in the Office Action, Applicants' representative can be reached at (760) 788-7401.

Respectfully submitted,

Date: January 14, 2002

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